

## ON THE FIRST AFRICAN AND AUSTRALIAN SPIDERS OF THE GENUS *CYRIOCTEA* (ARANEAE: ZODARIIDAE)

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*Abstract.*—The spider genus *Cyrioctea*, previously known only from Chile and Argentina, is newly recorded from Namibia (*C. whartoni*, *C. hirsuta*, and *C. namibensis*, new species) and Queensland (*C. raveni*, new species).

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Members of the remarkable spider genus *Cyrioctea* Simon (1889) are easily recognized by the presence of a transverse series of spines (six in number, except in the type species *C. spinifera* Nicolet, which has up to 10 spines) situated between the anterior and posterior eye rows (Schiapelli and Gerschman, 1942, pl. 1; Platnick, 1986, figs. 1-3). It seems likely that the cephalic spines are used primarily for burrowing into sand, as the five species described to date are known only from sand dunes and sandy inland areas in Chile and Argentina (Platnick, 1986). It was with great interest, therefore, that we independently found additional species of the genus, described below, from similarly sandy areas in Australia and southern Africa.

The familial placement and relationships of *Cyrioctea* are uncertain. Although the absence of a serrula, the elevated clypeus, the slightly reduced median and posterior spinnerets, and the genitalic conformation suggest that the genus belongs to the Zodariidae, the teeth on the tarsal claws are not confined to the inner edge of the claw as in typical zodariids (Jocqué, 1986, 1987; Platnick, 1986). It is entirely possible, therefore, that *Cyrioctea* represents the sister group of most, or all, other zodariids, and the unusually widespread distribution now documented for the genus accords well with that possibility.

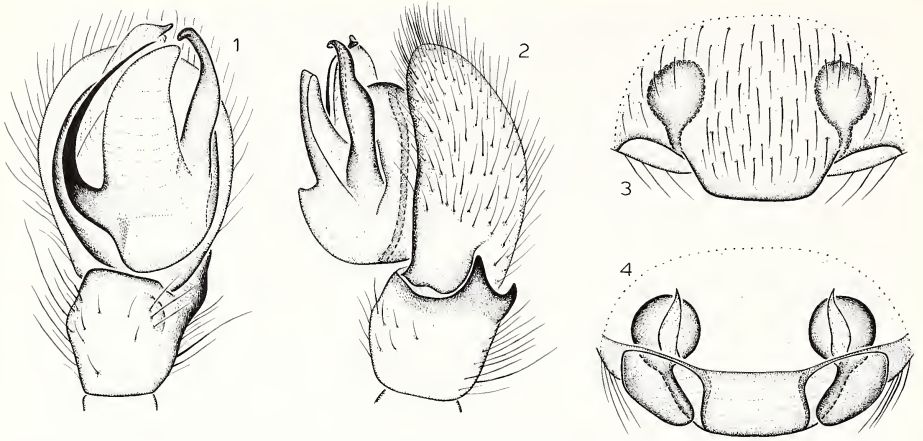
With six of nine species known from only one sex, it is difficult to test any hypotheses about the interrelationships of the American, African, and Australian species. One notable character, however, is the near fusion of tarsi and metatarsi I in the known females from Africa and Australia but not America.

The format of the descriptions follows that of Platnick (1986). We thank Dr. M. U. Shadab of the American Museum of Natural History for help with illustrations, and Drs. R. J. Raven and V. E. Davies for access to the collections of, and their hospitality during the first author's visit to, the Queensland Museum. This work was partially supported by National Science Foundation grants BSR-8312611 and BSR-8406225 to the first author.

### *Cyrioctea whartoni*, new species

Figs. 1-2

*Types.* Male holotype from Kuiseb River, Gobabeb, Namibia (June 15-July 20, 1979; R. Wharton), deposited in the State Museum, Windhoek (SMN 40773); paratype male (same data), deposited in the American Museum of Natural History.



Figs. 1-4. 1. *Cyrioctea whartoni*, left male palp, ventral view. 2. Same, retrolateral view. 3. *C. hirsuta*, new species, epigynum, ventral view. 4. Same, dorsal view.

*Etymology.* The specific name is a patronym in honor of the collector of the types.

*Diagnosis.* The long narrow embolus occupying most of the prolateral side of the palpal bulb distinguishes males of this species from those of all other known *Cyrioctea*.

Male: Total length 4.01. Carapace 2.36 long, 1.67 wide. Femur II 1.60 long. Eye sizes and interdistances: AME 0.09, ALE 0.08, PME 0.08, PLE 0.10; AME-AME 0.04, AME-ALE 0.01, PME-PME, 0.07, PME-PLE 0.06, ALE-PLE 0.08; MOQ length 0.33, front width 0.22, back width 0.23. Embolus situated at prolateral edge of palpal bulb, long, spiniform (Fig. 1); retrolateral tibial apophysis bifid (Fig. 2). Leg spination: femora: I d1-2-1, p0-0-1, r0-0-1; II d2-2-1, p0-0-1, r1-1-1; III d0-1-2, p0-1-1, r1-1-1; IV d2-2-0, p0-1-1, r0-0-1; patellae: II 0-1-0; IV d0-0-1, p0-0-1; tibiae: I p0-0-1, v0-2-3; II v1r-1r-2, r0-1-1; III d1-2-1, p2-0-1, v2-2-2; IV d1-0-1, p1-0-1; metatarsi: I p0-0-0, r0-0-0; II p1-0-1, v2-1r-2, r0-0-0; III d0-0-0, p1-2-2, r1-2-1; IV d0-2-0, p2-2-2, v2-3-2, r1-1-1.

Female: Unknown.

*Other material examined.* None.

*Distribution.* Known only from the type locality in central Namibia.

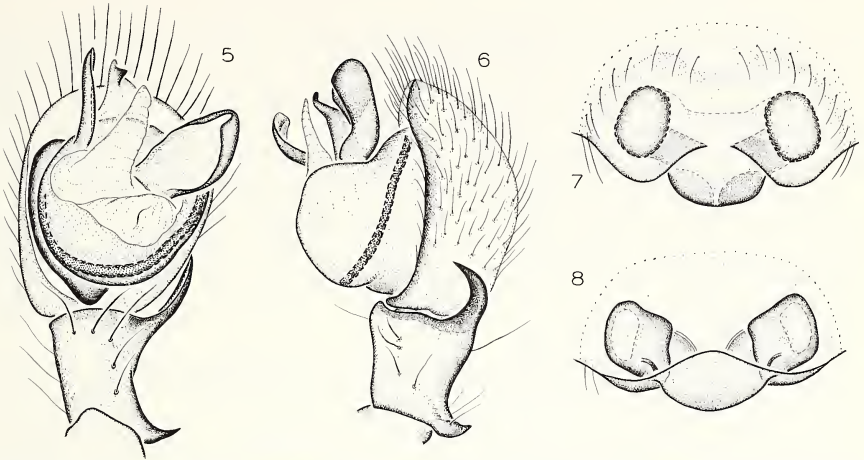
### *Cyrioctea hirsuta*, new species

Figs. 3-4

*Type.* Female holotype from Ugab River, Namibia (Apr. 25, 1987), deposited in the State Museum, Windhoek (SMN 40494).

*Etymology.* The specific name refers to the thick patch of setae on tibiae and metatarsi III.

*Diagnosis.* Females of this species have two unique leg modifications: the third tibiae and metatarsi have their dorsal and prolateral surfaces coated with a thick patch of stiff setae, and the first metatarsi and tarsi are elongated, virtually fused together, ventrally excavated, lined ventrally with two lateral rows of short, stiff macrosetae (of which the retrolateral row is much longer and stronger), and have the



Figs. 5–8. 5. *Cyrioctea namibensis*, left male palp, ventral view. 6. Same, retrolateral view. 7. *C. raveni*, new species, epigynum, ventral view. 8. Same, dorsal view.

teeth of the paired claws clustered on a proximal ledge. Although it is conceivable that this species represents the female of *C. whartoni* or *C. namibensis*, the absence of any indication of either leg modification in the males of those species makes that possibility seem unlikely.

Male: Unknown.

Female: Total length 5.46. Carapace 2.72 long, 1.58 wide. Femur II 1.13 long. Eye sizes and interdistances: AME 0.05, ALE 0.09, PME 0.08, PLE 0.10; AME-AME 0.14, AME-ALE 0.01, PME-PME 0.12, PME-PLE 0.10, ALE-PLE 0.11; MOQ length 0.37, front width 0.25, back width 0.28. Epigynal scape broad (Fig. 3); spermathecae circular (Fig. 4). Leg spination: femora I-IV d0-0-0, p0-0-0, r0-0-0; patellae: II p0-0-1; III d0-0-1, r0-0-0; IV d0-0-0, p0-0-0, r0-0-0; tibiae: I p0-0-0, v0-0-0; II p1-0-1, v0-0-0; III d1-0-1, p2-1-0, v0-0-1p, r0-0-1; IV d1-0-0, p0-0-0, v1p-1p-1p, r1-0-1; metatarsi: I p0-0-0, v0-0-0, r0-0-0; II p0-0-1, v0-0-1p, r0-0-0; III d0-0-0, p1-1-1, v0-0-1p, r1-1-1; IV d0-0-0, p1-1-2, v0-0-2, r1-1-1.

*Other material examined.* None.

*Distribution.* Known only from the type locality in northern Namibia.

### *Cyrioctea namibensis*, new species

Figs. 5–6

*Types.* Male holotype and paratype taken in pitfall traps in the Namib Desert gravel plains at the Arandis site of the Rossing Mine survey, latitude 22°22'S, longitude 14°59'E, Namibia (July 3–10, 1984; J. Irish, H. Rust), deposited in the State Museum, Windhoek (SMN 38160); male paratype (same data) deposited in the American Museum of Natural History.

*Etymology.* The specific name refers to the type locality.

*Diagnosis.* Males can be distinguished from those of all other known species by the presence of both proximal and distal retrolateral tibial apophyses (Fig. 6).

Male: Total length 2.93. Carapace 1.72 long, 1.01 wide. Femur II 1.13 long. Eye

sizes and interdistances: AME 0.08, ALE 0.06, PME 0.07, PLE 0.07; AME-AME 0.03, AME-ALE 0.02, PME-PME 0.06, PME-PLE 0.05, ALE-PLE 0.04; MOQ length 0.24, front width 0.19, back width 0.20. Median apophysis excavate (Fig. 5); palpal tibia with proximal and distal retrolateral apophyses (Fig. 6). Leg spination: femora: I d0-0-0, p0-0-0, r0-0-0; II d0-0-0, p0-0-0, r0-1-0; III d0-0-0, p0-0-0, r0-0-0; IV d0-0-0, p0-0-0, r0-1-0; patellae: II d0-0-1; III d0-0-1, p0-0-2, r0-0-0; IV d0-0-0, p0-0-1, r0-0-0; tibiae: I p0-0-1, v0-2-2; II d1-0-0, p0-0-1, v0-0-2, r0-1-0; III d2-0-1, p2-1-0, v0-0-2, r1-0-1; IV d0-1-0, p1-2-0, v0-1p-2; metatarsi: I p0-0-0, v0-1p-2, r0-0-0; II p1-0-0, v1r-0-2, r0-0-0; III d0-1-0, p1-1-1, v1p-0-2, r1-1-1; IV d1-0-0, p1-3-2, v1p-2-2, r0-1-1.

Female: Unknown.

*Other material examined.* None.

*Distribution.* Known only from the type locality in western Namibia.

### *Cyrioctea raveni*, new species

Figs. 7-8

*Type.* Female holotype from Rundle Range, mid-eastern Queensland, Australia (Mar. 24-31, 1975; R. J. Raven), deposited in the Queensland Museum.

*Etymology.* The specific name is a patronym in honor of the collector of the type.

*Diagnosis.* Females of this species resemble those of *C. hirsuta* in having tarsi and metatarsi I (and II, in *C. raveni*) virtually fused, but the short epigynal scape (Fig. 7) is diagnostic.

Male: Unknown.

Female: Total length 4.14. Carapace 1.95 long, 1.22 wide. Femur II 0.90 long. Eye sizes and interdistances: AME 0.04, ALE 0.07, PME 0.07, PLE 0.08; AME-AME 0.10, AME-ALE 0.01, PME-PME 0.07, PME-PLE 0.07, ALE-PLE 0.04; MOQ length 0.25, front width 0.18, back width 0.21. Epigynal scape short (Fig. 7); spermathecae prolonged medially (Fig. 8). Leg spination: femora: I, II d0-0-0, p0-0-0, r0-0-0; III d0-0-0, p0-0-1, r0-0-0; IV d0-0-0, p0-0-0, r0-0-0; patellae: III p0-3-1; IV d0-0-1, p0-0-0; tibiae: I, II p0-0-0, v0-0-0; III d0-1-1, p2-1-1, v0-0-1p; IV v1p-1p-2; metatarsi: I, II p0-0-0, v0-0-0, r0-0-0; III d0-1-0, p0-1-2, v0-0-2, r1-1-1; IV d0-1-0, p0-1-2, v1r-2-2, r0-1-1.

*Other material examined.* None.

*Distribution.* Known only from the type locality in mid-eastern Queensland.

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